

Meteorite.—On the night of the 22nd a meteoric stone fell to the ground on the west side of Schroon Lake, N. Y., "making it light as noonday and shaking the houses from cellar to garret." The stone, red-hot when it fell, was found in the morning to be a clear white rock, weighing about 125 lbs. The ground was indented to the depth of 6 inches, and the stone appeared to have come from the northeast. It is said to be unlike any other meteoric stone now known.

Meteors.—Meteors have been reported in considerable numbers; the following, however, are the only ones deserving of special notice: 21st, at Wickenburg, A. T., meteor 10° above the horizon moved in a westerly course about 30°, with increasing brightness till it resembled a rotating wheel of fire. It was visible about four minutes, and burst with a sound resembling a mining blast. At Seymour, ten miles east of Wickenburg it presented a similar appearance. Boston, Mass., 5th, 9:30 p. m., large meteor, like brilliant red ball of fire; apparent diameter one foot; moved from east to west, leaving bright red cloud 2° wide, which changed to bluish tinge and faded in about 1½ minutes. Little Rock, Ark., 7th, 10 p. m., bright yellow meteor, trail 8° long. St. Louis, Mo., 6th, 8:30 p. m., large and brilliant meteor moving north, color violet; path visible for 50°, when it exploded into 4 or 5 pieces.

Sun Spots.—The following record of observations, made by Mr. D. P. Todd, Assistant, has been forwarded by Prof. S. Newcomb, U. S. Navy, Superintendent Nautical Almanac Office, Washington, D. C.:

DATE— Sept., 1880.	No. of new—		Disappeared by solar rotation.		Reappeared by solar rotation.		Total number visible.		REMARKS.
	Groups	Spots.	Groups	Spots.	Groups	Spots.	Groups	Spots.	
3rd, 4 p. m.	2	2	1	19	2	2	3	3	Spots probably disappeared by solar rotation. Broad areas of faculae. Faculae.
4th, 8 a. m.	0	1	0	0	0	0	3	4	
5th, 10 a. m.	1	7	0	0	0	0	4	11	
10th, 7 a. m.	2	68†	0	0	2	45	5	75†	Faculae.
11th, 5 p. m.	0	10	0	0	0	0	5	85†	
12th, 12 m.	0	0	1	5	0	0	4	80†	
13th, 1 p. m.	0	0	0	5	0	0	4	75†	Faculae. Faculae.
14th, 3 p. m.	1	3	0	15	1	3	5	68†	
15th, 8 a. m.	0	0	0	15	0	0	5	48†	
16th, 7 a. m.	0	3	0	15	0	3	5	28†	Faculae. Faculae.
17th, 8 a. m.	0	4	1	15	0	0	4	15	
18th, 5 p. m.	3	10	2	5	0	0	5	20†	
19th, 9 a. m.	0	5	0	0	0	0	5	25†	Faculae.
21st, 10 a. m.	0	0	2	5	0	0	3	20	
22nd, 5 p. m.	0	0	0	0	0	0	3	10	
24th, 5 p. m.	1	4	0	0	1	4	4	14	Faculae. Faculae.
25th, 8 a. m.	0	3	0	0	0	0	4	17	
26th, 10 a. m.	0	5	0	0	0	0	4	22	
29th, 9 a. m.	0	36†	1	10	0	0	3	50†	Faculae.
30th, 7 a. m.	0	20	0	0	0	0	3	70†	

†Approximated.

Mr William Dawson, at Spiceland, Ind., reports: 1st, 3 groups, 21 spots, new group in SW. quadrant; 3rd, 2 groups, 7 spots, large spots W. of centre; 4th, 3 groups, 4 spots, new group at E. edge, air very poor; 5th, 4 groups, 24 spots, new group in SE. quadrant, air good; 6th, 4 groups, 27 spots; 8th, 9 groups, 60 spots; 9th, 6 groups, 80 spots, air poor; 10th, 6 groups, 140 spots; 13th, 5 groups, 90 spots; 14th, 5 groups, 90 spots; 15th, 6 groups, 62 spots; 16th, 4 groups, 26 spots; 17th, 5 groups, 24 spots; 18th, 5 groups, 43 spots; 19th, 6 groups, 44 spots; 21st, 4 groups, 31 spots, air poor; 22nd, 4 groups, 31 spots; 23rd, 5 groups, 28 spots; 24th, 4 groups, 19 spots; 28th, 5 groups, 80 spots; 29th, 4 groups, 85 spots, air poor. Mr. David Trowbridge, at Waterburgh, N. Y., reports: 1st, 2 spots; 2nd, 1 spot near centre; 3rd, same as 2nd; 4th, same as third and 1 new spot on E. edge; 5th, 3 groups, one near E. margin; 6th and 7th, the same; 10th, 3 groups, one very long containing 8 spots in the southern solar Hemisphere, 3 spots in the other 2 groups. The large group is one of those of the 5th. 11th and 12th, the same, the large group very extensive, occupying from W. to E., $\frac{2}{3}$ of the solar diameter, or 190,000 miles, I counted 21 spots, group faintly visible to the naked eye; 13th, 2 groups, 4 spots, one large one; 14th and 15th, the same, and a new spot just appearing on the E. with 2 spots, considerable change in the large group; 16th, 3 groups, 16 spots; 17th, the large group has disappeared by rotation; 18th, same as yesterday, 2 groups, 4 spots; 20th, 2 small spots near centre and the E. group of the 17th; 21st, same as yesterday and a new group of 4 small spots; 23rd, one spot near W. margin and the E. group of the 21st and a new spot near E. margin; 24th, the same as yesterday and a new spot near E. margin; 25th, same group, 5 spots; 26th, middle group of yesterday has disappeared; 28th, 4 groups, 12 spots; 29th, same as yesterday with 11 spots; 30th, the system of groups S. of equator containing 15 spots, the N. group, 5 spots. Cloudiness on the 8th, 9th, 19th, 22nd and 27th prevented observations.

NOTES AND EXTRACTS.

The Signal Service observer at St. Michaels, Alaska, reports the past winter as one of unusual severity. Long continued cold weather prevailed during January, February and March, 1880, accompanied by severe gales and much snow during the two latter months. The natives report that no winter of such severity has ever been known by them. The temperature at Fort Reliance, 400 miles southeast of Fort Yukon, reached —69°. Migrating birds were from eight to ten days late this

spring in arriving at St. Michaels. The winter has also been exceedingly severe, very cold and stormy, from the mouth of the Sanana, down the Yukon river and along the sea-coast from Kuskoquim river to Cape Prince of Wales. The natives narrowly escaped starvation, being compelled in some cases to eat their dogs and the tanned seal-skin covers of their boats, while large numbers of dogs died of starvation. Spring was from ten to fifteen days late.

The following is extracted from a report "Results of Wind observations at different heights," by Thomas Stevenson, M. I. C. E., published in the *Journal of the Scottish Meteorological Society*, Vol. V, new series: Although additional observations are much wanted at high levels, the results, so far as appears from the observations on winds varying from 2 miles an hour to 44 miles an hour, show—

1st. That spaces passed over in the same period of time by the wind increase with the height above the sea level, or above the surface of the ground.

2nd. The curves traced out by those variations of velocity (from 15 feet to 50 feet above the surface of the ground, and possibly higher) coincide most nearly with parabolas having their vertices in a horizontal line 72 feet below the surface.

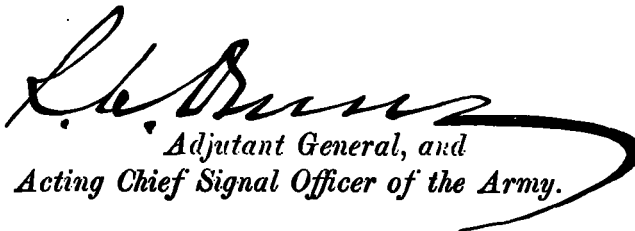
3rd. Between 15 feet and the ground surface there is great disturbance of the currents, so that the symmetry of the curves is destroyed.

4th. The parameters of these parabolas increase directly in the ratio of the squares of the velocities of the different gales:—If x be taken as the velocity of the wind at H feet above the ground the parameter of the corresponding parabola is $(\frac{x^2}{H+72})$ and as x varies, the parameter will vary as x^2 , or as the square of the velocity of the gale.

5th. In order to render wind observations comparable, all anemometers should if possible be placed at one uniform height above the ground, and that standard height should not be lower than 20 feet above its surface, but, were it generally, practicable, 50 feet or a still greater height would be better.

6th. When it is desired to find for *small heights* the velocity V at any point H feet above the ground, from the known velocity v at a height h feet above the ground (h being above 15 feet), the formula is $V = v\sqrt{\frac{H+72}{h+72}}$;—when H is above 50 feet above ground, the V got from the formula is slightly in excess of the actual velocity. When it is wanted to ascertain the velocity for *great heights* above the sea level, the approximately correct formula, which is believed to be sufficiently correct for practical purposes, is $V = v\sqrt{\frac{H}{h}}$.

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